

41 ~~101~~. (New) The aqueous polysilicate microgel of claim ~~28~~, wherein the aqueous solution of alkali metal silicate has a pH of at least about 13.

51 ~~102~~. (New) The process of claim ~~26~~, wherein the aqueous solution of alkali metal silicate has a pH of at least about 13.

71 ~~103~~. (New) The process of claim ~~36~~, wherein the aqueous solution of alkali metal silicate has a pH of at least about 13.

81 ~~104~~. (New) The aqueous polysilicate microgel of claim ~~47~~, wherein the aqueous solution of alkali metal silicate has a pH of at least about 13.

96 ~~105~~. (New) The process of claim ~~82~~, wherein the aqueous solution of alkali metal silicate has a pH of at least about 13.

105 ~~106~~. (New) The aqueous polysilicate microgel of claim ~~90~~, wherein the aqueous solution of alkali metal silicate has a pH of at least about 13.

# REMARKS

The present response adds new claims 98-106 without the addition of new matter thereby, and requests reconsideration of the rejected claims. Presently, claims 1-33 and 35-106 are pending.

New claims 98-106 are supported by the specification on page 3, lines 15-16.

The undersigned is grateful to the Examiner for taking the time to confirm in a telecon of November 13, 2001, that claims 69-86 are allowable and that claims 15 and 16 are rejected for the same reasons as claim 14.

The allowance of claims 1-13, 26-33, 35-63, 68-87 and 90-95 is gratefully acknowledged. Also, notification of the allowability of objected to claims 17, 22, 24, 25, 89 and 97 in independent form is appreciated. However, for the reasons outlined below, it is respectfully submitted that these claims are allowable without being rewritten in independent form.

Claims 14, 18-21, 23 and 64-67 are rejected under 35 U.S.C. § 102(b) as allegedly being anticipated by or, in the alternative, under 35 U.S.C. § 103(a) as allegedly being obvious over Moffett et al. U.S. Patent No. 5,279,807 ("Moffett"). This rejection is respectfully traversed.

**Moffett** discloses a method and apparatus for preparing low-concentration polysilicate microgels which are formed by the partial gelation of an alkali metal silicate or a polysilicate. Moffett in col. 1, lines 14-18 discloses that the polysilicate microgels are also referred to as "active" silica.

Moffett in col. 1, lines 31-49 discloses that the invention is a method and apparatus for continuously preparing a low-concentration polysilicate microgel which comprises:

- "(a) simultaneously introducing a first stream comprising a water soluble silicate and a second stream comprising a strong acid having a pKa less than 6 into a mixing zone [...] and a resulting **silicate/acid mixture** having a silica concentration in the range of from about 1.0 to 6.0 wt.% and a pH in the range of from 2 to 10.5;*
- (b) aging the **silicate/acid mixture** for a period of time sufficient to achieve a desired level of partial gelation [...]; and*
- (c) diluting the aged **mixture** to a silica concentration of not greater than about 1.0 wt.% whereby gelation is stabilized." (emphasis added)*

With regard to the product obtained in the method, Moffett refers to it by turns as polysilicate microgel, "active" silica and silicate/acid mixture. Moffett discloses and teaches that the starting material, i.e., the water soluble silicate, when mixed with the strong acid produces the chemical product of the method, i.e., the polysilicate microgel, "active" silica or silicate/acid mixture, which product has some degree of gelation. Moffett discloses that the aging according to (b) is conducted to achieve a desired level or partial gelation.

It is evident that Moffett discloses mixing a water soluble silicate with a strong acid, not mixing (i) an aqueous solution of alkali metal silicate with (ii) an aqueous phase of silica-based material having a pH within the range of from 4.5 to 11, as claimed in independent claims 14 and 23 of the present application. Moffett discloses that the strong acid can be sulfuric acid, cf. col. 1, line 53.

The Action states

*"While Moffett et al may not begin their preparative process with initially added "active silica", it is present during their aging step in which mixing would occur (col. 3, lines 50-58, esp. lines 54 and 55)."*

It is perfectly correct that "active" silica is not initially added in the preparative process of Moffett. However, the "active" silica is formed when the silicate is brought into contact with the acid. It is respectfully submitted that there is no disclosure or teaching of mixing (i) an aqueous solution of alkali metal silicate with (ii) an aqueous phase of silica-based material having a pH within the range of from 4.5 to 11 in the paragraph referred to in the Action. This paragraph reads:

*"Aging is generally accomplished in from 10 up to about 90 seconds by passing the silicate/acid mixture through an elongated transfer loop in route to a finished product receiving tank in which the mixture is immediately diluted and thereafter maintained at an active silica concentration of not greater than*

*1.0 wt.%. Partial gelation which produces the three-dimensional aggregate networks and chains of high surface area active silica particles is achieved during ageing."*

Moffett thus discloses and teaches that the finished product, i.e., the polysilicate microgel, "active" silica or silicate/acid mixture, is fed to a finished product receiving tank for dilution. When mixing occurs in the receiving tank, there is mixing of finished product with finished product, not mixing (i) an aqueous solution of alkali metal silicate with (ii) an aqueous phase of silica-based material having a pH within the range of from 4.5 to 11.

In accordance with the above discussion, it is respectfully submitted that claims 14, 18-21, 23 and 64-67 are allowable and it is requested that the rejection of these claims be withdrawn and that the objection of claims 17, 22, 24, 25, 89 and 97 be withdrawn.

Claims 88 and 96 are rejected under 35 U.S.C. § 112, second paragraph, for reciting "alkali metal silicate" while also reciting a sodium silicate. The undersigned understands the origins of the appearance of confusion. These claims do include an aqueous solution of sodium silicate in, respectively, a microgel and a process for preparing the same. However, in these claims there is also a silica-based material in addition to the aqueous solution of sodium silicate. It is the silica-based material which is further defined by claims 88 and 96 as being an "alkali metal silicate". Thus, it is respectfully submitted that this definition in claims 88 and 96, i.e., "the silica-based material is an acidified alkali metal silicate" is a perfectly proper definition of the material used in the process and of the product, which definition is supported by the specification on page 4, line 16 to page 5, line 10, and that it causes no confusion to one of ordinary skill in the subject art.

In accordance with the above, it is respectfully submitted that all pending claims are in condition for allowance and notice to that effect is earnestly solicited.

As requested in the Action, it is confirmed that claim 50 depends from claim 47. Claim 59 depends from claim 1. Also, claim 69 depends from claim 23.

Finally, the Action indicates that the USPTO has not received all the certified copies of the priority documents which are the subject of a claim for foreign priority under 35 USC 119(a)-(d). It indicates that a certified copy of EP 97850092.4 was received. It is respectfully submitted that it is only necessary to file a certified copy of EP 97850092.4 in this case. Since the certified copy of the European patent application was received, all the certified copies of the priority documents which are the subject of a claim for foreign priority under 35 USC 119(a)-(d) have been received by the USPTO. This is explained further below.

It is not necessary to file certified copies of the PCT application which forms a basis of priority under 35 USC 120 and not 35 USC 119(a)-(d), for which submission of a certified copy is required. A priority claim to a PCT application is provided for under 35 USC 120, which applies to applications "previously filed in the United States, or as provided by section 363 of this title," 35 USC 120, (section 363 applies to international applications, i.e., PCT applications, designating the US). Also, it is not necessary to file a certified copy of the US provisional application which forms a basis for priority of the present application, since the basis of priority is not 35 USC 119(a)-(d).

The undersigned has endeavored to address all the outstanding issues in this application. However, if there is any issue left unresolved, the undersigned encourages Examiner Lovering to call her at 914 674 5466.

Respectfully submitted,



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Enc. Marked Version

**MARKED VERSION**

Please add the following new claims:

- -98. (New) The process of claim 1, wherein the aqueous solution of alkali metal silicate has a pH of at least about 13.

99. (New) The aqueous polysilicate microgel of claim 8, wherein the aqueous solution of alkali metal silicate has a pH of at least about 13.

100. (New) The process of claim 14, wherein the aqueous solution of alkali metal silicate has a pH of at least about 13.

101. (New) The aqueous polysilicate microgel of claim 23, wherein the aqueous solution of alkali metal silicate has a pH of at least about 13.

102. (New) The process of claim 26, wherein the aqueous solution of alkali metal silicate has a pH of at least about 13.

103. (New) The process of claim 36, wherein the aqueous solution of alkali metal silicate has a pH of at least about 13.

104. (New) The aqueous polysilicate microgel of claim 47, wherein the aqueous solution of alkali metal silicate has a pH of at least about 13.

105. (New) The process of claim 82, wherein the aqueous solution of alkali metal silicate has a pH of at least about 13.

106. (New) The aqueous polysilicate microgel of claim 90, wherein the aqueous solution of alkali metal silicate has a pH of at least about 13.- -